

D'HOLBACH, MAN OF SCIENCE

by Virgil W. Topazio

In the study of nature and man, the eighteenth century witnessed a shift from the mathematical and normative approach of the seventeenth century to the empirical method of Francis Bacon that resulted in great advances in the biological and natural sciences. The Cartesian concept of basic premises aprioristically arrived at or intuitively conceived gave way to the inductive procedure that produced concepts based upon a preponderance of affirmative steps experimentally validated. Nor was this interest in scientific experimentation confined to the so-called "professional" scientists like Réaumur, Rouelle, Buffon, Darcet, and Lavoisier. Numerous laymen as well as most of the writers displayed an unusual interest in the latest work being done in the sciences. For example, Montesquieu during his early career wrote scientific treatises; Diderot regularly attended lectures in biology, chemistry, and physics; Rousseau performed chemical experiments at Les Charmettes and retained a lifelong interest in botany; Voltaire devoted long hours to scientific problems in his well-equipped laboratory with his mistress Emilie du Châtelet; and even persons like Mme de Pompadour and Louis XVI ostentatiously conducted laboratory experiments. As the method changed from speculation to observation, the typically classical study of man was extended to include the environment of which man formed an integral part. And as experimental science succeeded in stripping away the mysteries of nature, it became apparent to more and more people that the results of recent investigations and discoveries had shaken the theologians' explanations of the cosmos and of man's role in it.

One of the staunchest exponents of the increasing insistence upon demonstrable evidence was the Baron Paul Thiry d'Holbach whose importance in the progress of sciences in the eighteenth century has been grossly underestimated. His command of the German language (he was born in the Palatinate) coupled with his interest in science enabled him to keep abreast of the more recent studies in applied sciences being performed in Germany

Editor's Note: Mr. Topazio is Professor of French and Chairman of the Department of French at Rice University.

and the Scandinavian countries. The magnitude of the contribution made by this naturalized Frenchman in making available the works of foreign scientists can scarcely be overemphasized. Between 1751 and 1765 he contributed 376 articles to the *Encyclopédie*. An innate modesty and a desire to maintain a complete anonymity impelled him to sign his articles in Volume II (---); from Volume III through XVII his signature changed to (-). In the beginning of the second volume (1751) Diderot paid tribute to d'Holbach's impressive learning and invaluable contribution as a disseminator of scientific knowledge:

This learned man was not content to render us so great a service; he furnished us other articles on different subjects; but he insisted that his identity remain unknown. That is what prevents us from giving to the public the name of this citizen-philosopher who cultivates the sciences without self-interest or ambition, without fanfare, and who, content with the pleasure of being useful, does not even aspire to the so legitimate glory of appearing unselfish.

To be sure, d'Holbach was not an original thinker; his articles technically were translations of which many were merely short notices. Yet an equal number were long essays on a variety of scientific subjects. This material, Diderot acknowledged in the preface of Volume III (1753), presented much new material, and according to Paulette Charbonnel:

All those articles, very long and learned, represent an incontestable effort of personal expression and reflection. Although a part of them stems from translations, they are individually and collectively very superior to any chapter of Henckel, Lehmann or Stahl.¹

In further explanation of d'Holbach's manner of writing or translating, this same critic stated:

D'Holbach feels these authors are often confused and that their presentation would be displeasing to the French. Therefore he permits himself the freedom to alter their composition and style in order to achieve greater clarity. But his preoccupations are not limited only to the precision of the text. He offers commentaries either to furnish a reference, a clarification, and to inform the reader of the progress achieved in any particular science, or even to develop a thesis different from that of the author (p. 47).

Another reason for attaching more significance to these articles than one normally would to simple translations was the propensity of d'Holbach to intersperse personal comments on the work being done by such eighteenth-century scientists as Réaumur, Jussieu, Rouelle, and Buffon.

D'Holbach was unquestionably one of the most learned men in an age of enlightened "philosophers." Debure's catalogue of his library, listing 2,956 items, gives some indication of the catholicity of the Baron's intellectual interests. And his "philosophe" friends have left ample testimony attesting to the encyclopedic breadth and retentiveness of his mind. Nageon, who became d'Holbach's literary chief-of-staff, said of him: "If one excludes math-

ematics, one can say that he successfully cultivated all the sciences . . . it is to him that we are indebted in large part for the rapid progress of natural history and chemistry in the past thirty years; it is he who inspired an interest and even passion in them."² Diderot was quoted by Meister as having said: "No matter what system my imagination devises, I am sure that my friend d'Holbach will find the authorities and facts to justify it" (see *Correspondance littéraire*, XV:420). And the abbé Morellet similarly characterized his host as "one of the best-informed men of his time," and added that no wealthy man had ever used his fortune "with greater benefit to art and science."³

No primarily literary figure of the eighteenth century was more committed to the scientific method of examining man's problems than d'Holbach. As he explained at the very beginning of his principal work, *Système de la nature* (1770): "Man always deceives himself when he abandons experiment for systems spawned by the imagination" (p. 1). Therefore, he added: "Man must have recourse to physics and to experiment in all his research. They are the guides he should consult in religion, morality, legislation, politics, sciences and arts, pleasures and pain" (p. 5). D'Holbach's passion for applied science, which was relatively new in the eighteenth century, and his dissatisfaction with many of Buffon's vague generalizations (though on the whole he admired Buffon very much), induced him to translate, in addition to his articles, a dozen volumes on various scientific subjects. Among these are Kunckel and Neri's *Art de la verrerie* (1752), Henckel's *Introduction à la minéralogie* (1756) and *Pyritologie* (1760), Wallerius' *Minéralogie* (1753) and *Agriculture réduite à ses vrais principes* (1774), Gellert's *Chimie métallurgique* (1758), and Lehmann's *Traité de physique, d'histoire naturelle, de minéralogie et de métallurgie* (1759). These important translations unquestionably established him as an intelligent and sympathetic onlooker at the birth of the modern positive sciences of geology, mineralogy, chemistry, and metallurgy. His election to membership by the princely academies of Berlin, Petersburg, and of Mannheim recognized his position as a force in the world of science. And no less a figure than Daubenton, Buffon's collaborator, credited d'Holbach with having fixed the French scientific nomenclature of minerals.

D'Holbach's literary production can conveniently be divided into three periods: the scientific, the antireligious or destructive, and the ethical or constructive. During his first or scientific period he brought into sharp focus the disparities between "certain accepted and traditional cosmologies and a scientific interpretation of the terrestrial globe and the forms of life which flourish upon it."⁴ The wide scientific background acquired during this first period influenced the works of his second and third periods and explains his religious, ethical, and even political convictions. What ultimately caused d'Holbach to direct an unrelenting attack upon the church was his convic-

tion that the church's intransigence and its divorce from the realities of life, as revealed by scientific studies, seriously undermined the morality and the political structure of the people. Once persuaded of this fact, he set out systematically and dispassionately, secure behind a cloak of anonymity or pseudonymity, to destroy not only the validity of the church but of God Himself.

The strongest arguments that had been advanced in support of a Divinity were on biological and ethical grounds. God was seen necessary to explain life and to insure order. To combat these views, d'Holbach marshalled an overwhelming mass of evidence. He particularly emphasized this point: if God does exist, He must be composed of matter in order to possess the anthropomorphic qualities most people insist upon attributing to Him. In that case, He would have to be subject to the same inexorable, immutable laws of nature which govern all matter, living and inert. On the other hand, an attempt to place God above such material limitations, that is, any attempt to conceive of Him as a pure spirit, a formless being, would automatically deprive God of all judgment values, since these judgment values would have to stem from sense experiences, according to the best scientific information available to man. To maintain otherwise would be tantamount to accepting incomprehensible terms, completely beyond the realm of human understanding.

D'Holbach differed from the majority of his contemporaries by making the cosmological doctrine of the theologians the primary target of his scientific and systematic attacks. Wholeheartedly accepting John Toland's motion-in-matter theory, he argued that everything in the universe was composed of indestructible matter endowed with certain properties, of which the most important was motion (see *Système de la nature*, I, 33-34). His knowledge of chemistry furnished him with numerous examples to prove that the mixture of inert substances could produce this motion (ibid., I, 23-24), which in combination with other forces inherent in matter accounted for the continuous creation of organic life. The acceptance of this thesis, and for d'Holbach it was the only scientifically defensible one, nullified the argument for biological finalism and design, already rendered vulnerable in his eyes by the presence of misfits in nature.

D'Holbach did not pretend to have answers to all the problems that plagued mankind, but eminently exemplifying the eighteenth-century's faith in the perfectibility of man he was confident that given time, science would furnish those answers necessary for man to live in harmony with himself, his fellow men, and the universe.

Some metaphysical questions, he suspected, would probably never be adequately answered simply because by their very nature they were in the last analysis beyond the ken of man. This admission of the limitation of man's finite mind, according to d'Holbach, did not give theologians the

right to present a priori solutions, which in addition to insulting man's intelligence threatened to harm his social relations.

As in the case of Voltaire, d'Holbach's preoccupation with ethics led him to support and defend the practical sciences in preference to the theoretical. He would have been in hearty agreement with this statement of Delvaile: "The aim of all sciences is to render man more useful, to strive for the happiness of the group in advancing the well-being of the individual. And morality directs all sciences to contribute to this social advancement by acquainting man with his duty in any given situation; thus in effect it becomes the support of society."⁵ The moral doctrine proposed by d'Holbach was not idealistic, as can be seen; it was based upon a realistic acceptance of the limitations of man and the primacy of terrestrial life. He was always optimistic, however, that education and the progress of science would chart a happy course for mankind. "What advantages," he exclaimed, "an enlightened people sustained by freedom of thought would bring to the sciences, the progress of the human mind, the perfection of morality, and laws" (*Système de la nature*, II, 386). Scientific studies, he was confident, would eventually reveal the psychological and physiological oneness of man upon which laws should be predicated to achieve uniform moral criteria.

Indispensable to the creation of a healthy climate conducive to liberty and progress, therefore, was the dissemination of the scientific advances in all fields of knowledge. It was as disseminator extraordinary that d'Holbach played an unsurpassed role in the eighteenth century. The polemist and propagandist in d'Holbach dogmatically expounded a philosophy of naturalism in his *Système de la nature* and his *Morale universelle*. With an extensive display of scientific knowledge he set out to establish nature as self-directing—thereby eliminating God as the creator of nature and man. And it was vital, d'Holbach knew, to dissociate God from nature if there was to be any hope for the dissemination of his materialistic and deterministic philosophy. Once he had divorced ethics from supernatural sanctions, he proceeded methodically to establish on natural grounds man's actions and moral values.

There are two kinds of forces in the modern world, d'Holbach asserted, those that divide people and those that unite them. Science unites; religion divides. Therefore he strove to dispel, with the aid of science and reason, the chimeras elaborately constructed by theology, that "science of empty words which by dint of repetition became accepted as fact" (*Système de la nature*, II, 392). The economic, political, and moral goals sought by men were attainable only by those who understood the nature of the world in which they lived. This was the message preached incessantly by d'Holbach, and with a fervor and conviction apparent to any serious reader of his works.

D'Holbach was convinced that religion had not kept pace with the progress made by science, and that blind adherence to religious beliefs had restricted man's personal happiness and endangered his social and political welfare. The only hope for mankind, he believed, was to seek its values within the context of human character and experience and to ground these values on individual self-realization and social utility.

The liberalization that has taken place in the church's social, political, and ethical thinking since the eighteenth century admittedly has invalidated most of d'Holbach's arguments. Many of the searching questions he asked, however, have yet to be answered to the satisfaction of inquiring minds. The person who sees his primary obligation to self and society, a modern-day d'Holbach could still argue, finds much to attract him in the secular, ethical, and political doctrines based upon a scientific and realistic understanding of both nature and man, an understanding made possible through the constant progress of experimental science, of which d'Holbach was one of the foremost advocates in the eighteenth century.

NOTES

1. Paulette Charbonnel, *D'Holbach, Textes choisis*, ed. Sociales (Paris, 1957), p. 48.
2. Jacques André, "Lettre sur la mort de M. le baron d'Holbach," *Journal de Paris*, (Feb. 9, 1789), 175. See also Pierre Naville, *Paul Thiry d'Holbach et la philosophie scientifique au XVIIIe siècle* (Paris, 1943), p. 432.
3. André Morellet, *Mémoires sur le XVIIIe siècle et sur la révolution* (Paris, 1821), I, pp. 127-128. See also Jean François Marmontel, *Mémoires*, ed. M. Tourneux (Paris, 1891), I, p. 307.
4. Max Pearson Cushing, *Baron d'Holbach: A Study of eighteenth-century radicalism in France* (New York, 1914), p. 65.
5. Jules Delvaille, *Essai sur l'histoire de l'idée de progrès jusqu'à la fin du XVIIIe siècle* (Paris, 1910), pp. 662-663.